atypical antipsychotics (olanzapine, risperidone, quetiapine, and ziprasidone) using different definitions of persistence and data-cutting criteria to assess their impact on the results and conclusions. **METHODS:** Using the Pennsylvania Medicaid database (January 1999–June 2003), patients diagnosed with schizophrenia, aged 18–64 who initiated an antipsychotic of interest after a 3-month period without the index drug were identified. A treatment episode was defined as the period from the initiation date of index medication to the first medication gap. To assess the effect of methodological changes on study outcomes three methodologies were implemented: 1) 30- vs. 90-day gap to define treatment discontinuation; 2) multi-episode vs. first- or last-episod; and 3) 1-year fixed study duration. **RESULTS:** Using a 30-day gap to define treatment discontinuation, 43,491 treatment episodes were identified (olanzapine = 16,709, risperidone = 14,847, quetiapine = 8648, ziprasidone = 3287) for 24,365 patients. Average duration of these episodes was 211, 197, 180, 130 days, respectively for olanzapine, risperidone, quetiapine, and ziprasidone and increased to 253, 236, 201, and 144 days respectively using the last episode approach. Imposing a fixed 1-year study duration effectively truncated the longer treatment episodes and had a different impact on the persistence of olanzapine (190 days), risperidone (183 days), quetiapine (170 days), and ziprasidone (143 days). Similar patterns were observed using a 90-day gap criteria. **CONCLUSION:** In claims database studies, the approaches used to define persistence and treatment episodes affect the persistence of individual medications and may impact the outcomes and conclusions of a persistence study. It is critical, therefore, to carefully consider the analysis criteria and the use of sensitivity analysis with multiple data-cutting scenarios in order to provide a better understanding of the data.

PMH39

A MULTI-DOMAIN MICRO-SIMULATION ECONOMIC MODELING FRAMEWORK IN ALZHEIMER'S DISEASE

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OBJECTIVES: To develop a stochastic multi-domain micro-simulation model for evaluation of cost-effectiveness and long-term outcome in Alzheimer's disease. **METHODS:** Key disease indicators (e.g. cognitive function, functional abilities—ADLs and care setting) were simulated over time for individual patients using regression functions derived from longitudinal observational data. Micro-simulation of each individual patient enables incorporating individual variability over time into the model, i.e. the disease progression depends on individual characteristics and previous progression rates. The disease indicators together with patient characteristics were used to predict the need for health care services and ultimately the need for full time care. **RESULTS:** The model simulated individual patients estimating cognitive function, physical function, resource utilization and care setting for each 6 months period until the event of death. Average disease progression rates and estimated resource use well corresponded to what have been observed in clinical praxis. **CONCLUSION:** Existing models stratify patients into artificial cohorts using single domains (typically either cognition or care setting) thereby neglecting important explanatory variables and limiting the extent to which individual variability can be modeled. The proposed model provides a dynamic simulation framework completely based on regression functions. This enables inclusion of all relevant disease indicators and incorporation of individual variability into disease progression functions. The proposed model can be used for economic evaluation of any treatment intervention.

PMH40

12-MONTH TREATMENT DISCONTINUATION RATES IN PATIENTS WITH SCHIZOPHRENIA TREATED WITH RISPERIDONE LONG ACTING INJECTION (RLAI): INTERIM RESULTS FROM THE ELECTRONIC SCHIZOPHRENIA TREATMENT ADHERENCE REGISTRY PROJECT CONDUCTED IN SPAIN, AUSTRALIA AND BELGIUM

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OBJECTIVES: To compare 12-month outcomes in patients with schizophrenia who received risperidone long-acting injectable (RLAI) treatment and are enrolled in the electronic-Schizophrenia Treatment Adherence Registry (e-STAR) in Spain (SP), Australia (AU), and Belgium (BE). **METHODS:** E-STAR is a secure, web-based, international, long-term observational study of patients with schizophrenia who commence RLAI treatment. Data are collected both retrospectively and prospectively. Reason for initiating RLAI and treatment discontinuation data were collected. **RESULTS:** A total of 2498 patients (SP = 1332, AU = 763, BE = 403) were included in this analysis. At 12-months, 84% (CI = 81.5–86.2), 52.2% (CI = 48.2–56.0), and 71.6% (CI = 65.3–77.1) of patients in Spain, Australia and Belgium were still being maintained on RLAI respectively. The three most common reasons reported for discontinuing RLAI was "insufficient response", "choice", and "lost to follow-up". The most important reason reported for initiating RLAI was "compliance" in Australia and Belgium (AU = 52%, BE = 43%). In Spain it was "insufficient response" (33%) followed closely by compliance (32%). The differences seen in the results may partially be due to differences in the baseline characteristics of the patients. The age of patients at baseline was significantly different (SP = 38.3, AU = 37.1, BE = 39.9; $p = 0.0005$). Time since diagnosis (in years) was significantly higher in Spain than Australia and Belgium (SP = 12.6, AU = 10.6, BE = 9.3; $p < 0.0001$). Spanish patients had significantly higher baseline GAF scores than the Australian and Belgian patients (SP = 46.8, AU = 42.6, BE = 44; $p < 0.0001$). The proportion of inpatients was significantly different between the three countries (SP = 9.2%, AU = 51.6%, BE = 55.6%; $p < 0.0001$). Finally, the proportion of patients employed (full-time and part-time) was also significantly different (SP = 12.7%, AU = 8.5%, BE = 15.4%; $p < 0.0008$). Due to these differences, data were not pooled. **CONCLUSION:** This interim analysis shows that the majority of patients were still maintained on RLAI at 12-months. However, the discontinuation rates of RLAI were significantly different between countries. This may partially be due to differing baseline patient characteristics in the countries.